

Chapter 2

Tangible non-current assets

Lily, Yao

CREATING GREAT OUTCOMES

through professional qualification training
and study abroad services and preparation

Dr 资产的增加 负债的减少 费用的正向 收入的反向 所有者权益的减少

+asset -liability expense/(income) -equity

Cr -asset +liability income/(expense) +equity

捡钱示例：

资产增加100 赚了100 收入100

Dr: asset 100

Cr income 100

卖货物：

Dr Cash 2

Cr Revenue 2

Dr Cost 1

Cr Inventory 1



Main contents

◆IAS 16 PPE

◆IAS 20 Government Grants

◆IAS 23 Borrowing Cost

◆IAS 40 Investment Property

处置固定资产

-PPE +Cash +Income

Dr Cash 8

Cr Gain on PPE Disposal 2

Cr PPE 6

房产

厂房

机器设备

◆ IAS16 Property, plant and equipment

➤ Definition:

Tangible assets held by an entity for more than one accounting period after the statement of financial position date.

- I. For use in the production or supply of goods and services;
- II. For rental to others;
- III. For an administrative purposes

➤ Recognition:

- I. The resource is controlled by an entity as a result of past events.
- II. It is probable that future economic benefits associated with the asset will **flow to** the entity;
- III. the cost of the asset can be measured reliably.

Expensed

Computer 10,000
Expense (written)
P/L expense 10,000
SoFP . PPE 0

Capitalize

P/L expense 1,000
SoFP . PPE
= 10,000 - 1,000
= 9,000

➤ Initial measurement

Purchase cost



Directly
attributable cost



Future cost

Include:

Carriage inwards
Import duties
Stamp duty
Deduct:
Trade discount

Include:

Site preparation 厂房中准备工作
Installation costs
Borrowing cost 借款成本
Delivery costs
Testing cost
Professional fees

Include:

Future dismantle
Removal
Restoration

Note:

Administration, training, abnormal waste, repairs should be
written off in the year it occurs. = should be expensed

An entity started construction on a building for its own use on 1 April 20X7 and incurred the following costs:

Purchase price of land ✓	250,000
Stamp duty ✓	5,000
Legal fees ✓	10,000
Site preparation and clearance	18,000
Materials $\left\{ \begin{array}{l} 25,000 \times \text{abnormal} \\ 75,000 \checkmark \text{ normal} \end{array} \right.$	100,000
Labour (period 1 April 20X7 to 1 July 20X8)	150,000
Architect's fees ✓	20,000
General overheads \times - 一般共同费用属常规开支, 并不与资产相关	30,000
	<hr/>
	583,000

Materials costs were greater than anticipated. It was found that materials costing \$10 million had been spoiled and wasted and a further \$15 million was incurred as a result of faulty design work. As a result of these problems, work on the building ceased for a fortnight during October 20X7 and it is estimated \$9 million of the labor costs relate to this period. The building was completed on 2008.7.1 and occupied on 2008.9.1.

	Total	Exclude	Include
	\$000	\$000	\$000
Purchase price of land	250,000		250,000
Stamp duty	5,000		5,000
Legal fees	10,000		10,000
Site preparation and clearance	18,000		18,000
Materials (Note 1)	100,000	25,000	75,000
Labour (150,000 – 9,000) (Note 2)	150,000	9,000	141,000
Architect's fees	20,000		20,000
General overheads	30,000	30,000	
<i>Dr: Expense 64,000</i>			
<i>Dr: PPE 51,900</i>			
<i>Cr: Cash 583,000</i>			
	<u>583,000</u>	<u>64,000</u>	<u>519,000</u>

➤ Subsequent expenditure 后续开支

should **only be capitalized** if

- I. **It enhances the economic benefits** provided by the asset (i.e., Extension to a building, improve life, increasing the productivity of the asset, increasing quality of output)
- II. It relates to an **overhaul**¹ or required **major inspection**² of the asset - the costs associated with this should be capitalized and depreciated over the time (until the next overhaul or safety inspection.)
 1: 大修 2: 重要检测
- III. It **is replacing** a component of a complex asset at regular intervals. This can only be capitalized if the **original component has been written off.** *engine*

Note: All other subsequent expenditure should be expensed (i.e. Repairs & maintenance)

◆ Depreciation

➤ Definition

- ✓ The aim is to spread the cost of asset over its useful life, but not to reflect the change in the value of an asset.
- ✓ It commences from the date the asset is available for use (not bring to use) and eases when the asset is derecognized.

➤ Common depreciation methods:

- ✓ Straight line

直线法

$$\text{Straight Line Method} = \frac{\text{Cost} - \text{Residual value}}{\text{Useful life}}$$

- ✓ Reducing balance

余额递减法

$$\text{Reducing Balance Method} = \text{Depreciation rate} \times \text{carrying value b/d}$$

➤ Key points:

- I. Components of an asset with different lives (complex assets such as an engine within an aircraft) must be depreciated separately.
- II. Review asset life, residual value and depreciation method at each year end.

Test

An asset costs \$100,000 and has an expected useful life of ten years. The purchaser intends to use the asset for six years at which point the expected residual value will be \$40,000 (at current prices). What is the depreciable amount?

The depreciable amount is $$(100,000 - 40,000) = \$60,000$ spread over six years.

An asset was purchased for \$100,000 on 1 January 20X5 and straight line depreciation of \$20,000 pa is being charged (five year life, no residual value). The annual review of asset lives is undertaken and for this particular asset, the remaining useful life as at 1 January 20X7 is eight years.

In the financial statements for the year ended 20X7.12.31, what's the depreciation expense for this year and future years ?

Carrying value (CV) as at 31 December 20X6

$$\$100,000 - (2 \times 20,000) = \$60,000$$

Remaining useful life as at 1 January 20X7: 8 years

Annual depreciation expense $\$60,000 / 8 \text{ years} = \$7,500$

An entity purchases an aircraft that has an expected useful life of 20 years with no residual value. The aircraft requires substantial overhaul at the end of years 5, 10 and 15. The aircraft cost \$25 million and \$5 million of this figure is estimated to be attributable to the economic benefits that are restored by the overhauls.

Calculate the annual depreciation charge for the years 1–5 and years 6–10.

The aircraft is treated as two separate components for depreciation purposes:

Years 1–5	\$m	
Initial \$5m depreciated over 5 years	1	(overhaul)
Balance of \$20m depreciated over 20 years' useful life of aircraft	1	
	<hr/>	
Depreciation charge pa	2	

When the first overhaul is completed at the end of year 5 at cost 6 million, this overhaul cost is capitalized and depreciated to the date of the next overhaul:

Years 6–10	\$m
Overhaul \$6m depreciated over 5 years	1.2
Aircraft depreciation	<u>1.0</u>
Depreciation charge pa	2.2

估值模型

Carrying Value

➤ Valuation models of NCA

✓ **The cost model** (Benchmark treatment) 成本模型

CV = cost – accumulated depreciation-impairments

✓ **The revaluation model** (Allowed alternative treatment) 重估~

CV = revalued amount – subsequent accumulated depreciation-impairments

Advantage of revaluation model

More fair and relevant

Disadvantage of revaluation model

Maybe depreciation charge will increase and profits will be lower than using the cost model.

➤ Two conditions in adopting revaluation model

- I. When an item of NCA is adopting revaluation model, all other assets in the same class (e.g., 房屋、建筑物、机器、机械、运输工具) should be **revalued**.
- II. When an item of NCA is adopting revaluation model, its value **must be kept up-to-date**. When the CV of the asset differs significantly from its fair value, a revaluation should be carried out.

✓ Other tips

- I. Assets in different classes can use different models.
- II. Gains in one asset can't be used to offset losses in another.

➤ Accounting for a revaluation

Example	FV of property	Remaining life
1 April 20X8	100,000	20 years
31 March 20X9 (revalue)	114,000	19 years

1 April 20X8

In the year end

Dr NCA 100,000	Dr Depreciation (P/L)	5,000
Cr Cash 100,000	Cr Carrying value (PPE)	5,000

31 March 20X9 (revalue)

Dr Carrying value	19,000
Cr Revaluation Reserve 重估盈余因为没有变现	19,000

After revaluation

Dr Depreciation	6,000 (114,000/19)
Cr Carrying value	6,000

减少资产增值对 returned earnings 的影响, 账做不做看公司政策

Excess depreciation may need to be transferred to maintain RE

Dr Revaluation Reserve 1,000 (19,000/19) *重估利得(当年)*
Cr Retained earnings 1,000 *重估后, 剩余使用年限*

	FV of property	Remaining life
31 March 20X9	114,000	19 years
31 March 20Y0 (revalue)	90,000	18 years

31 March 20Y0 (revalue)

Dr Revaluation Reserve 18,000 (114,000 - 6,000 - 90,000)

Cr Carrying value *if revalue = 80,000*

Dr: RR 18,000 18,000
P/L 10,000

Cr: CU - PPE 28,000

Tips

Revaluation losses are charged: *不影响利润表, 影响所有者权益变动表*

1, against the revaluation reserve firstly if previously revalued ;

2, remaining loss to P/L. *当期费用化* *不影响 total equity 金额*

Practice

On 1 April 20X8 the fair value of Xu's leasehold property was \$100,000 with a remaining life of 20 years. The company's policy is to revalue its property at each year end. At 31 March 20X9 the property was valued at \$86,000.

The balance on the revaluation reserve at 1 April 20X8 was \$20,000 which relates entirely to the leasehold property.

(1) State how to deal with it.

(W1) Depreciation

$\$100,000 / 20 \text{ years} = \$5,000$

(W2) Revaluation

CV of leasehold at 20X9.3.31 (100,000 – 5,000)	95,000
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Leasehold valuation at 31 March 20X9	86,000
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Loss on revaluation	(9,000)
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Statement of changes in equity extract (revaluation reserve)

Balance at 1 April 20X8	20,000
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Revaluation of leasehold (W2)	(9,000)
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Balance at 31 March 20X9	11,000
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(2) State how the accounting would be different if the opening revaluation reserve did not exist.

If the opening revaluation surplus did not exist, then the revaluation loss of \$9,000 would need to be taken through the statement of **profit or loss** as an impairment expense.

<u>Example:</u>	item A	item B
CV at 2012.3.31	180,000	80,000
<u>Revalued</u> amount at 2012.3.31	160,000	112,000
<u>Revised</u> estimated remaining useful life	5 years	5 years

The company makes an annual transfer from its revaluation surplus to retained earnings in respect of excess depreciation.

What's the impact on financial statements as at 2012.3.31?

In terms of item A, assume there exists no revaluation reserve before.

Dr impairment loss	20,000
Cr PPE	20,000

In terms of item B

Dr PPE	32,000
Cr revaluation reserve	32,000

Transfer of excess depreciation

Dr revaluation reserve	32000/5
Cr retained earnings	32000/5

➤ Disposal of revalued non-current assets

- I. The profit or loss on disposal = net sales proceeds – C.V.
- II. The profit or loss goes to statement of profit or loss for the period in which the disposal occurs
- III. The balance of the revaluation reserve is to be transferred to retained earning.

余额

Dr: RR

Cr: R.E

Example

Derek purchased a property costing \$750,000 on 1 January 20X4 with a useful economic life of 10 years. It has no residual value. At 31 December 20X4 the property was valued at \$810,000 resulting in a gain on revaluation \$135,000. There was no change to its useful life. Derek does not make a transfer to realized profits in respect of excess depreciation on revalued assets.

On 31 December 20X6 the property was sold for \$900,000.

Required:

How should the disposal on the previously revalued asset be treated in the financial statements for the year ended 31 December 20X6?

	\$000	\$000
Sales proceeds		900
Valuation at 31 Dec. 20X4	810	
Less: depreciation $810/9 \times 2$	<u>(180)</u>	
Carrying value at 31 Dec. 20X6		<u>(630)</u>
Profit on disposal		<u>270</u>

Transfer remaining balance on revaluation reserve

Dr	Revaluation Reserve	135,000
Cr	Retained earnings	135,000

◆ IAS20 Government Grants 政府补助

Example

Grant for creating jobs
Grant for environmental
friendly operation

2 Types of Grant

Example

Grant for buying plants
Grant for opening
factories

Revenue

Deduct from
related
expense, or;

Show as credit
in income
statement

Capital

Write off
against the cost
of the NCA, or;

Treat as
deferred
income

➤ General principles in dealing with grants

✓ Prudence:

Grants should not be recognized until the conditions for the receipt have been complied with and there is a reasonable assurance that the grant will be received

✓ Accruals:

Government grants should be matched with the expenditure towards which they were intended to contribute.

✓ Two types of government grants

- I. Revenue grants
- II. Capital grants

政府给予的3年补助,3年分批写入利润表,作为收入

Illustration-Revenue grants

A company is given \$3m on 2015.1.1 to keep staff employed within a deprived area. The company must not make redundancies for the next 3 years, or the grant will need to be repaid. By 2015.12.31, no redundancies have taken place and non are planned.

Accounting records:

- **2015.12.31**

Dr cash \$3m

Cr grant income (P/L) \$1m

Cr deferred income (current liability) \$3m/3

Cr deferred income (Non-current liability) \$1m

- **2016.12.31**

Dr deferred income (CL)	\$1m
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Cr grant income (P/L)	\$1m
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Dr deferred income (NCL)	\$1m
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Cr deferred income (CL)	\$1m
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- **2017.12.31**

Dr deferred income (CL)	\$1m
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Cr grant income (P/L)	\$1m
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➤ Accounting treatments for capital grants

- I. Write off the grant against the cost of NCA and depreciate the reduced cost (netting off method); **or**
- II. Treat the grant as a deferred liability and transfer a portion to revenue each year, so offsetting the higher depreciation expense on the original cost (deferred income method).

A Entity opens a new factory and receives a government grant of \$15,000 in respect of capital equipment costing \$100,000. it depreciates all plant and machinery at 20% pa straight-line. 递延收入释放速度与折旧速度保持一致

	\$
Method 1	
Plant & machinery (100,000-15,000)	85,000
Accumulated depreciation 85,000*20%	<u>(17,000)</u>
	<u>68,000</u>

Method 2	
Plant & machinery	100,000
Accumulated depreciation 100,000*20%	<u>(20,000)</u>
	<u>80,000</u>

Dr	Cash	15,000	
Cr	Government grant Credit (P/L)	3000	
Cr	Deferred government grant- NCL	9000	
Cr	Deferred government grant- CL	3000	(15,000*20%)

➤ Repayment of grants

A government grant that becomes repayable is accounted for as a revision of an accounting estimate.

✓ Repayment-revenue grant

On 20X1.1.1, Sly received \$2m from the local government on the condition that they employ at least 100 staff each year for the next 4 years. On this date, it was virtually certain that Sly would meet these requirements. However, due to the economic downturn and reduced consumer demand after one year, Sly no longer needed to employ anymore staff. The conditions of the grant required full repayment. What should be recorded in the financial statements?

20X1.12.31	Dr cash	2m
	Cr grant income (P/L)	0.5m
	Cr deferred income (NCL)	1m
	Cr deferred income (CL)	0.5m

According to IAS, when repayment is required for revenue grant, the income recognized in the P/L should be reversed and the balance in the deferred income should be derecognized. 终止确认 / 清空

So Sly should record

Dr grant income (P/L) 0.5m

Dr deferred income (CL) 0.5m

Dr deferred income (NCL) 1m

Cr repayment liability 2m

owe to government
给, 贷现金; 没给, 贷负债

✓ Repayment-capital grant

On 1 January 20X6, Garden Co received a \$30,000 government grant relating to equipment which cost \$90,000 and had a useful life of six years. The grant was netted off against the cost of the equipment. 20X6.1.1

	Cost-grant	$90,000 - 30,000 = 60,000$
For 20X6	Depreciation	$60,000 / 6 = 10,000$
20X7.1.1	Carrying amount	50,000

On 1 January 20X7, when the equipment had a carrying amount of \$50,000, its use was changed so that it was no longer being used in accordance with the grant. This meant that the grant needed to be repaid in full but by 31 December 20X7, this had not yet been done.

The standard states if the netting-off method has been used, the value of the asset must be increased to recognize the full cost of the asset without the grant. A liability will be set up for the grant repayment.

As if no grant, the carrying value in 20X7.12.31 should be $90,000 \times 4/6 = 60,000$.

Since the grant is no longer available, the carrying value in 2017.12.31 should be adjusted to 60,000.

Dr Property, plant and equipment \$10,000

Dr Depreciation expense \$20,000 (bal) 倒挤出的余额

Cr Liability \$30,000

Note:

If the deferred income method for capital grants has been used, any amounts released to P/L may also need to be reversed, depending on the level of repayment.

◆ IAS 23 Borrowing Costs \neq finance cost

借款成本 财务费用

➤ Definition

Borrowing costs must be added to the cost of an asset, if the asset is one that takes a substantial time to get ready. (e.g., property construction)

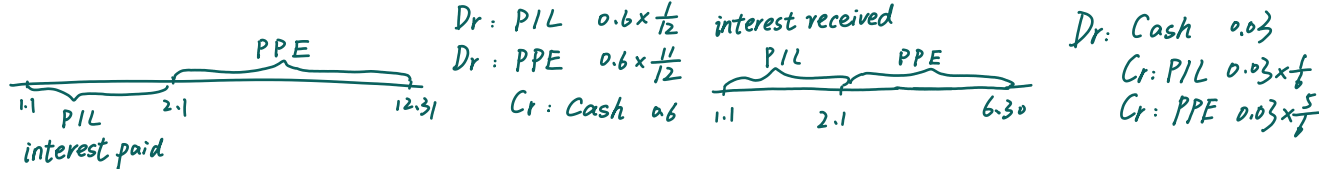
➤ Conditions for capitalization (All)

- I. Expenditure is being incurred on the asset
- II. Borrowing costs is being incurred
- III. Activities to get the asset ready for use are **in progress**

➤ Cessation of capitalization → 进资产负债表

- I. The asset is ready for its intended use;
- II. Construction is suspended, e.g. Due to industrial disputes.

暂停后复工时刻重新纳入 . 例如 许可证未拿到, 工人罢工



➤ Calculation of the capitalized borrowing cost

Borrowing costs which may be capitalized are those **actually incurred, less any investment income** on the **temporary investment** of the borrowings.

✓ Example

John took out a \$10 million 6% loan on 1 January 2011 to build a new football stadium. Not all of the funds were immediately required so \$2 million was invested in 3% bonds until 30 June 20X1. Construction of the stadium began on 1 February 2011 and was completed on 31 December 2011.

Calculate the amount of interest to be capitalized in respect of the football stadium as at 31 December 2011?



Answer

The interest should be **capitalized from 2011.2.1**, when the construction begins.

The total interest cost for the year is \$600,000 (\$10 million*6%). January's interest should be expensed as it happened before the stadium began .

Dr Finance cost (P/L) 50,000

Dr capitalized interest (NCA) 550,000

Cr cash 600,000

Total income earned=\$30,000 (\$2 million *3%*6/12)

January's interest income goes to P/L since it happens before construction begins.

Dr cash 30,000

Cr investment income (P/L) 5,000 ($\frac{1}{6} \times 30,000$)

Cr capitalized interest (NCA) 25,000

Practice

On 1 January 2015, Sain began to construct a supermarket which had an estimated useful life of 40 years. It purchase a leasehold interest in the site for \$25 million. The construction of the building cost \$9 million and the fixtures and fittings cost \$6 million. The construction of the supermarket was completed on 30 September 2015 and it was brought into use on 1 January 2016.

Sain borrowed \$40 million on 1 January 2015 in order to finance this project. The loan carried interest at 10% pa. it was repaid on 30 June 2016.

Calculate the total amount to be included at cost in PPE in respect of the development at 31 Dec. 2015

Answer

Included in PPE at 31 Dec. 2015

Lease	25,000
Building	9,000
Fitting	6,000
Interest capitalized $40,000 \times 10\% \times 9/12$	3,000
	<hr/>
	43,000

➤ Weighted average cost of general borrowings

If a company had a \$10 million 6% loan and a \$2million 8% loan, the weighted average cost of borrowing would be:

$$(\$10m \times 6\% + \$2m \times 8\%) / \$12m = 6.33\%$$

The amount to be capitalized would be the amount spent on the asset multiplied by 6.33%.

◆ IAS 40 Investment Property

➤ Definition

The property held for rentals, capital appreciation or both, rather than for use in the production or supply of goods or services or for admin purpose (i.e. owner-occupied PPE under IAS 16)

➤ Examples

Land held for long-term appreciation, buildings leased out.

➤ Characteristics

Investment properties generate cash flows **independent of the other assets** held by the entity; they don't form part of the entity's normal operations.

✓ **Note:**

If a building is rented by a subsidiary of the company, then the building will be classed as an investment property in the parent's individual accounts, but will be classed as PPE per IAS 16 in consolidated financial statements.

➤ **Accounting treatment**

✓ **Cost model**

as in IAS 16, recognize at cost and depreciates

✓ **Fair value model**

- I. No depreciation
- II. Revalue to market value annually
- III. Gains or losses in FV to P/L

FV model is different from revaluation model.

Revaluation model:

Any gain to revaluation reserve. Any loss first goes against revaluation reserve and then goes to P/L.

Example

Celine, a manufacturing company, purchases a property for \$1 million on 1 January 20X1 for its investment potential. The land element of the cost is believed to be \$400,000, and the buildings element is expected to have a useful life of 50 years. At 31 December 20X1, local property indices suggest that the fair value of the property has risen to \$1.1 million.

Required:

Show how the property would be presented in the financial statements as at 31 December 20X1 if Celine adopts:

- (a) the cost model
- (b) the fair value model.

(a) Cost model

Depreciation in the year is = \$12,000

- in the statement of profit or loss, there will be a depreciation charge of \$12,000
- in the statement of financial position, the property will be shown at a CV of $\$1,000,000 - \$12,000 = \$988,000$.

(b) Fair value model

- In the statement of financial position, the property will be shown at its fair value of \$1.1 million.
- In the statement of profit or loss, there will be a gain of \$0.1 million representing the fair value adjustment.
- No depreciation is charged.

- **Transfer between I.P to owner occupied PPE**
- ✓ **Transfer from investment property to owner occupied PPE**

Firstly, revalue the investment property (gains or loss to P/L)

Secondly, make the following journal.

Dr PPE

Cr Investment Property

✓ Transfer from owner occupied PPE to investment property

Firstly, revalue PPE from cost to FV

If revaluation gain

Dr CV of PPE
Cr Revaluation reserve

If revaluation loss

Dr Revaluation reserve
Dr P/L
Cr CV of PPE

Secondly, transfer the revalued PPE to Investment Property.

Dr Investment Property
Cr PPE

Test

Kyle Co. had been renting out a vacant property for many years under the fair value model. At 1 January 2011, the property had a FV in Kyle Co's financial statements of \$12 million. On 1 July, Kyle Co decided to move back into the property following the end of the rental agreement with the tenants. At this date the asset had a FV of \$14 million and a remaining useful life of 14 years. What amount should be recorded in Kyle Co's P/L for the year ended 31.Dec. 2011.

Answer

2011.7.1

Dr Investment property 2

Cr investment gain (P/L) 2

Dr PPE 14

Cr Investment property 14

Dr depreciation expense $14/14 \times 6/12 = 0.5$

Cr CV of PPE 0.5

Statement of profit or loss and other comprehensive income for year ended 31.3.2

P/L

Investment income

Depreciation expense

Amortisation expense

Revaluation / impairment loss

Other comprehensive income

Items that will not be reclassified to P/L

Revaluation gain / (loss)

Relevant standards

IAS 40

IAS 16

IAS 38

IAS 16 / 36

IAS 16

Statement of Financial Position as at 31.3.2014

Assets

Non-Current Assets

Property, plant and equipment

Investment property

Goodwill (purchased goodwill)

Other intangible assets (brand name, software)

Development expenditure capitalised

Relevant standards

IAS 16 + IAS 36 + IAS 23

IAS 40

IFRS 3 + IAS 36

IAS 38

IAS 38

Homework

● Exam kit-Section A

✓ PPE ¹

T:1,3,8,9,10,11,

✓ Government grant ²

T:4,5,12,

✓ Borrowing cost ³

T:7,14,

✓ Investment property ⁴

T:6,13,15,